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A New Plastic Treatment on the Rayon Yarns and Staples, and the Characteristic Features of the Products Thereof (I)

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(d) The relationships between the diffusion rate of vinylchloride gas and the rate of emulusion polymerization were considered quantitatively, and the necessary height of polymerization-tower was also calculated.

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37. A New Plastic Treatment on the Rayon Yarns and Staples, and the Characteristic Features of the Products Thereof. (I)

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The plastic treatment by a urea-formaldehyde resin or its derivatives on those viscose rayon yarns and staples has not yet been successful in this country. The author has been developing a new method of processing rayon yarns and staples with the plastics as stated in the foregoing abstracts. This paper deals with the pronounced results obtained, of the pile fabrics prepared by several miils, using the treated and untreated viscose rayon yarns or spun yarns.

The following table gives some of the results shown in terms of the pile recovery in % of the fabrics tested by a newly contrived pile recovery tester of a simple form.

Applied pressure	Pile recovery in % of pile fabric of rayon Yarn		Pile recovery in % of pile fablic of rayon Spun yarn	
	Treated	Untreated	Treated	Untreated
115 g/m²	78.5	59.0	95.0	55.0
515 〃	81.5	69.0	90.0	54.5
1115 〃	69.0	50.0	85.0	50.0
1615 〃	57.0	44.5	80.0	48.5

The pile recovery in % given here was calculated by the following equation:

$$[P.\ R]=(c-b)/(a-c)\times 100,$$

in which a; the thickness of the pile fabric, b; the thickness of the pile fabric at the end of 5 minutes remaining under load for that time, and c; the height of the pile after the pile fabric was allowed to recover free from pressure for 3 munutes.

As clearly seen in the table the pile recoveries of the fabrics of the treated yarns are exceedingly higher than those of the fabrics of the untreated one.

Various pile fabrics made of viscose rayon yarns, benberg yarns and silk were mutally compared for reference.
